

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A streaming method in which a server transmits stream data to a terminal over a network, and the terminal plays back the stream data while receiving the stream data from the server,

wherein, in the terminal, said method comprises:

determining a target value of the stream data to be stored in a buffer of the terminal in relation to a buffer capacity of the terminal and a transmission capacity of the network;

arbitrarily determining, in a range not exceeding a value obtained by dividing the buffer capacity by the transmission capacity, a delay time from when the terminal writes head data of the stream data to the buffer to when the terminal reads the data to start playback;

notifying the server of the determined target value and the determined delay time; and

wherein, in the server, said method comprises controlling a transmission speed based on the notified target value and the notified delay time when the server transmits the stream data to the terminal over the network.

2. (Previously presented) The streaming method according to claim 1, wherein in said controlling of the transmission speed, the server controls the transmission speed so that an amount of the stream data stored in the buffer of the terminal changes in the vicinity of the target value without exceeding the target value.

3. (Previously presented) The streaming method according to claim 2, wherein in said controlling of the transmission speed, the server estimates and calculates the amount of the stream data stored in the buffer of the terminal based on the transmission speed, the delay time, and a speed of the terminal decoding the stream data.

4. (Previously presented) The streaming method according to claim 1, wherein, in the terminal, said method further comprises:

detecting whether the transmission capacity of the network exceeds a predetermined threshold value;
changing the target value based on a result detected in said detecting; and
notifying the server of a new target value after the target value is changed in said changing of the target value; and

wherein, in said controlling of the transmission speed, when receiving the new target value after the target value is changed, the server controls the transmission speed so that the amount of the stream data stored in the buffer of the terminal changes in the vicinity of the new target value after the target value is changed without exceeding the new target value after the target value is changed.

5. (Previously presented) The streaming method according to claim 4, wherein:
in said detecting, when detecting that the transmission capacity of the network falls short of a first threshold value, the terminal controls the target value to be increased in said changing of the target value; and

in said controlling of the transmission speed, in response to the target value as being increased, the server controls the transmission speed to be increased.

6. (Previously presented) The streaming method according to claim 5, wherein the first threshold value is approximately a median value of an achievable maximum transmission capacity and a transmission capacity with which a stream data transfer loss starts occurring.

7. (Previously presented) The streaming method according to claim 4, wherein:
in said detection, when detecting that the transmission capacity of the network falls short of a second threshold value which is smaller than a first threshold value, the terminal controls the target value to be decreased in said changing of the target value; and
in said control of the transmission speed, in response to the target value being decreased, the server controls the transmission speed to be decreased.

8. (Previously Presented) The streaming method according to claim 7, wherein the second threshold value is a value corresponding to the transmission capacity with which the stream data transfer loss starts occurring.

9. (Previously presented) The streaming method according to claim 8, wherein, when the terminal controls the target value to be decreased in said changing of the target value, the server controls the transmission speed to be decreased by comparing a presentation time of each frame structuring the stream data to be transmitted with a current time, and by skipping transmitting any frame whose presentation time is older than the current time.

10. (Previously presented) The streaming method according to claim 8, wherein, when the terminal controls the target value to be decreased in said changing of the target value, the server, in said controlling the transmission speed,

compares a priority level of each frame structuring the stream data to be transmitted with a reference value,

skips transmitting each frame whose priority level is lower than the reference value, and

compares each presentation time for any frame whose priority level is higher than the reference value with the current time, and skips transmitting any frame whose presentation time is older than the current time.

11. (Previously presented) A system including a server for transmitting stream data over a network, and a terminal for playing back the stream data while receiving the stream data from said server,

wherein said terminal comprises:

target value determination means for determining a target value of stream data to be stored in a buffer of said terminal in relation to a buffer capacity of said terminal and a transmission capacity of the network;

delay time determination means for arbitrarily determining, in a range not exceeding a value obtained by dividing the buffer capacity by the transmission

capacity, a delay time from when said terminal writes head data of the stream data to the buffer to when said terminal reads the data to start playback; and

notifying means for notifying the server of the target value determined by said target value determination means and the delay time determined by said delay time determination means; and

wherein said server comprises control means for controlling a transmission speed based on the notified target value and the delay time when transmitting the stream data to said terminal over the network.

12. (Previously presented) A terminal working with a server for transmitting stream data over a network, and playing back the stream data while receiving the stream data from said server,

wherein said server comprises control means for controlling a transmission speed based on a target value and a delay time when transmitting the stream data to said terminal over the network; and

wherein said terminal comprises:

target value determination means for determining the target value of the stream data to be stored in a buffer of said terminal in relation to a buffer capacity of said terminal and a transmission capacity of the network;

delay time determination means for arbitrarily determining, in a range not exceeding a value obtained by dividing the buffer capacity by the transmission capacity, the delay time from when said terminal writes head data of the stream data to the buffer to when said terminal reads the data to start playback; and

notifying means for notifying said server of the target value determined by said target value determination means and the delay time determined by said delay time determination means.

13. (Currently Amended) A server for transmitting stream data over a network, and working together with a terminal for playing back the stream data while receiving the stream data from said server,

wherein said terminal comprises:

target value determination means for determining a target value of the stream data to be stored in a buffer of said terminal in relation to a buffer capacity of said ~~server~~terminal and a transmission capacity of the network;

delay time determination means for arbitrarily determining, in a range not exceeding a value obtained by dividing the buffer capacity by the transmission capacity, a delay time from when said terminal writes head data of the stream data to the buffer to when said terminal reads the data to start playback; and

notifying means for notifying said server of the target value determined by said target value determination means and the delay time determined by said delay time determination means;

wherein said server comprises control means for controlling a transmission speed based on the notified target value and the delay time when said server transmits the stream data to said terminal over the network; and

wherein said control means controls the transmission speed so that the amount of the stream data stored in the buffer of said terminal changes in the vicinity of the target value without exceeding the target value.

14. (Previously presented) A program describing a streaming method in which a server transmits stream data to a terminal through a network, and the terminal plays back the stream data while receiving the stream data from the server,

wherein, in the terminal, said method comprises:

determining a target value of the stream data to be stored in a buffer of the terminal in relation to a buffer capacity of the terminal and a transmission capacity of the network;

arbitrarily determining, in a range not exceeding a value obtained by dividing the buffer capacity by the transmission capacity, a delay time from when the terminal writes head data of the stream data to the buffer to when the terminal reads the data to start playback;

notifying the server of the determined target value and the determined delay time; and

wherein, in the server, said method comprises controlling a transmission speed based on the notified target value and the notified delay time when the server transmits the stream data to the terminal over the network.

15. (Previously presented) A recording medium on which a program is recorded, said program describing a streaming method in which a server transmits stream data to a terminal through a network and the terminal plays back the stream data while receiving the stream data from the server,

wherein said program causes the terminal to perform an operation of:

determining a target value of the stream data to be stored in a buffer of the terminal in relation to a buffer capacity of the terminal and a transmission capacity of the network;

arbitrarily determining, in a range not exceeding a value obtained by dividing the buffer capacity by the transmission capacity, a delay time from when the terminal writes head data of the stream data to the buffer to when the terminal reads the data to start playback; and

notifying the server of the determined target value and the determined delay time; and

wherein said program causes the server to perform an operation of controlling a transmission speed based on the notified target value and the notified delay time when the server transmits the stream data to the terminal over the network.